

PROPERTY PLANNING COMMON ELEMENTS

COMPONENTS OF MASTER PLANS

HABITATS AND THEIR MANAGEMENT

General Fisheries Management

Warmwater Fisheries

Warmwater rivers, streams, lakes, and flowages can host a rich variety of game and nongame fish. Among the various species pursued by anglers are walleye, sturgeon, catfish, northern pike, muskellunge, smallmouth bass, largemouth bass, white bass, bluegill, crappie, pumpkinseed, and yellow perch. Forage and non-game species are important components of these ecosystems, providing forage for larger game fish, upward transfer of energy in the food web, and serving as host species for mussels, among other roles. A number of endangered, threatened, or special concern species also may be present. All these species are dependent on diverse habitats for their survival.

Log jams and submerged trees create complex habitat that serves a variety of fish life history needs, including spawning cover and/or substrate, hiding/resting cover for adult and juvenile fish, and substrate for periphyton and invertebrates – important food items for fish. Trees located at multiple depths within a stream or river channel can accommodate annual variation in water levels. Numerous management and research studies have shown that fisheries diversity and abundance tend to be higher in areas that contain large amounts of coarse wood habitat.

Small perennial or seasonal interconnected streams and wetlands along rivers and their old oxbows provide very productive habitat for native fish such as walleye and northern pike that use them for spawning and nursery areas, as well as for other aquatic organisms. Soft-stemmed vegetation such as grasses, sedges, and rushes, and suitable water flow (inlets and outlets) are important characteristics of these spawning and nursery areas. Shallow, rocky areas with moving current, such as rock and cobble riffle areas (and now rock riprap along river banks), are important spawning areas for lake sturgeon. Other features, like deep lateral scour pools with well-defined eddy areas or slow-moving backwaters, can be important for other times or stages in fish lifecycles (e.g., wintering habitat or larval stages).

Free passage is important for species that migrate along rivers, streams, and other waterways such as ditches to spawning habitats each year.

Management Objective

- Maintain and enhance existing native fish populations and diversity and fishing opportunity through habitat management, restoration, enhancement, gamefish stocking, control of non-native fish, research, and monitoring.

Management Prescriptions

- Monitor game and nongame fish populations using standardized fish surveys to detect long-term trends and establish management objectives.



- Allow natural hydrologic processes to occur wherever possible, or restore where feasible.
- Identify and remove barriers to fish passage.
- Actively manage selected sites for fish spawning and nursery habitat.
- Maintain open water habitat in sloughs, oxbows, and river channels.
- Where necessary, enhance or restore riparian corridors and degraded shorelines to improve streambank and in-stream habitats and angler access.
- Maintain existing coarse woody habitat and conduct woody habitat development (e.g., tree drops, creation of log-jams, etc.) as needed to improve cover, food supply, and spawning areas.
- Consult with appropriate staff from other programs (e.g., Natural Heritage Conservation, Wildlife Management, etc.) during the planning of in-stream and streambank fish habitat enhancement projects.
- Obtain all necessary [water permits](#) and/or floodplain hydrologic and hydraulic analyses pursuant to NR 116, Wisconsin Administrative Code, before conducting in-stream or streambank enhancements.
- Stock fish in flowages as need to maintain or restore a game fishery.

Coldwater Fisheries

Coldwater streams support fish communities adapted to cold, oxygen-rich flowing water conditions. These communities contain relatively few species but are dominated by trout, which are very important game fish. Important coldwater species include game species like brook trout, brown trout, and rainbow trout, as well as species such as white sucker, mottled sculpin, and various minnows.

Stream morphology (channel width and gradient, bank slope, etc.), water depth and flow, temperature, degree of shading, bottom material, and cover are important factors affecting habitat quality for coldwater fish. Habitat enhancements can increase carrying capacity, growth, and natural recruitment of desired fish species and improve angler access. As with warmwater fisheries, addressing barriers that impair fish passage and degrade habitat quality is an important component of habitat management.

Management Objectives

- Maintain, or increase as practicable, the extent and quality of Class 1 and Class 2 trout streams for brown and brook trout populations.
- Maintain and improve natural trout reproduction, abundance, and size distribution.
- Maintain and enhance riparian and instream conditions to provide quality trout habitat and angler access and fishability.

Management Prescriptions

- Assess the condition of riparian and instream habitats and the health of fish populations to determine the type and intensity of management needed.
- Apply primarily passive management to sites that are high-quality and stable.
- Address fish passage impairments (e.g., beaver dams, culverts) to reconnect stream reaches and to maintain the free-flowing, coldwater environment required to maintain robust populations of aquatic species.



- In the 132-foot riparian corridor (66 feet on either side of the center line of the stream), manage vegetation to maintain high quality trout habitat and self-sustaining trout populations. Activities include planting of appropriate native species and removal of understory and young successional vegetation such as speckled (tag) alder, aspen, box elder, black willow, and invasive species to minimize bank erosion excessive stream shading, or degraded habitat quality.
- When necessary, install and maintain department-approved stream habitat enhancements at appropriate sites. These can include bank stabilization using rock rip-rap or vegetation root systems, lunger and boom cover installations, revetments and current deflectors, and brush bundling to protect or enhance habitat quality and diversity.
- Consult with appropriate staff from other programs (e.g., Natural Heritage Conservation, Wildlife Management, etc.) during the planning of in-stream, streambank, and riparian habitat enhancement projects.
- Obtain all necessary [water permits](#) and/or floodplain hydrologic and hydraulic analyses pursuant to NR 116, Wisconsin Administrative Code, before conducting in-stream or streambank enhancements.
- Continue to conduct electrofishing and netting surveys according to statewide monitoring protocols, and provide results to the public.
- Follow Bureau of Fisheries Management guidance on fish stocking rates.

